

Application No. 09/981,207
Response to Office Action

Customer No. 01933

Listing of Claims:

Claims 1 - 10 (Canceled).

11. (New) A printing apparatus for printing an image using
a consumable detachably attached to the printing apparatus,
wherein the consumable is adapted to output a response code
obtained by encoding an identification code with a set logic and
5 wherein a first logic is set in the consumable as the set logic
when the consumable is unused, said printing apparatus
comprising;

a generating section which generates the identification
code;

10 an output port which outputs the identification code to the
consumable;

an input port through which the response code from the
consumable is input;

15 an encoding section which encodes the identification code
with the first logic to output a first normal code;

a collating section which collates the first normal code
with the response code input through the input port;

a change section which changes the set logic in the
consumable to a second logic determined in accordance with a

Application No. 09/981,207
Response to Office Action

Customer No. 01933

20 predetermined rule, when the response code coincides with the
first normal code;

a storage section which stores the second logic and an
initial value as a count value corresponding to the second logic,
said storage section being adapted to store a plurality of said
25 second logics in respective correspondence with respective count
values;

wherein if the response code does not coincide with the
first normal code, the encoding section encodes the
identification code with one said second logic stored in the
30 storage section, if at least one said second logic is stored in
the storage section, to output a second normal code, and the
collating section collates the second normal code with the
response code;

wherein if the second normal code coincides with the
35 response code, an updating section of the printing apparatus
updates the count value stored in the storage section in
correspondence with the second logic used to obtain the second
normal code in accordance with usage of the consumable;

wherein if the response code does not coincide with the
40 second normal code, the encoding section and the collating
section repeat the encoding and the collating for each said
second logic stored in the storage section, until one of:
(1) each said second logic has been subjected to encoding and

Application No. 09/981,207
Response to Office Action

Customer No. 01933

collating, and (ii) one said second normal code coincides with
45 the response code; and

wherein if the response code does not coincide with the
first normal code and does not coincide with any said second
normal code, an identifying section of the printing apparatus
identifies the consumable as unusable.

12. (New) A printing apparatus for printing an image using
a consumable detachably attached to the printing apparatus,
wherein the consumable is adapted to output a response code
obtained by encoding an identification code with a set logic and
5 wherein a first logic is set in the consumable as the set logic
when the consumable is unused, said printing apparatus
comprising:

generating the identification code;
outputting the identification code to the consumable;
10 receiving the response code from the consumable;
encoding the identification code with the first logic and
outputting a first normal code;
collating the first normal code with the received response
code;
15 changing the set logic in the consumable to a second logic
determined in accordance with a predetermined rule, when the
response code coincides with the first normal code;

Application No. 09/981,207
Response to Office Action

Customer No. 01933

storing, in a storage section of the printing apparatus, the
second logic and an initial value as a count value corresponding
20 to the second logic, said storage section being adapted to store
a plurality of said second logics in correspondence with
respective count values;

encoding, if the response code does not coincide with the
first normal code, the identification code with one said stored
25 second logic, if at least one said second logic is stored in the
storage section, to output a second normal code, and collating
the second normal code with the response code;

updating, if the second normal code coincides with the
response code, the count value stored in the storage section in
30 correspondence with the second logic used to obtain the second
normal code in accordance with usage of the consumable;

repeating, if the response code does not coincide with the
second normal code, the encoding and the collating for each
said second logic stored in the storage section, until one of:
35 (i) each said second logic has been subjected to encoding and
collating, and (ii) one said second normal code coincides with
the response code; and

identifying the consumable as unusable, if the response code
does not coincide with the first normal code and does not
40 coincide with any said second normal code.